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Title: WOBBLE DEMODULATOR AND WOBBLE DEMODULATION METHOD
Attorney Name: Douglas P. Mueller
Phone No.: 612.371.5237

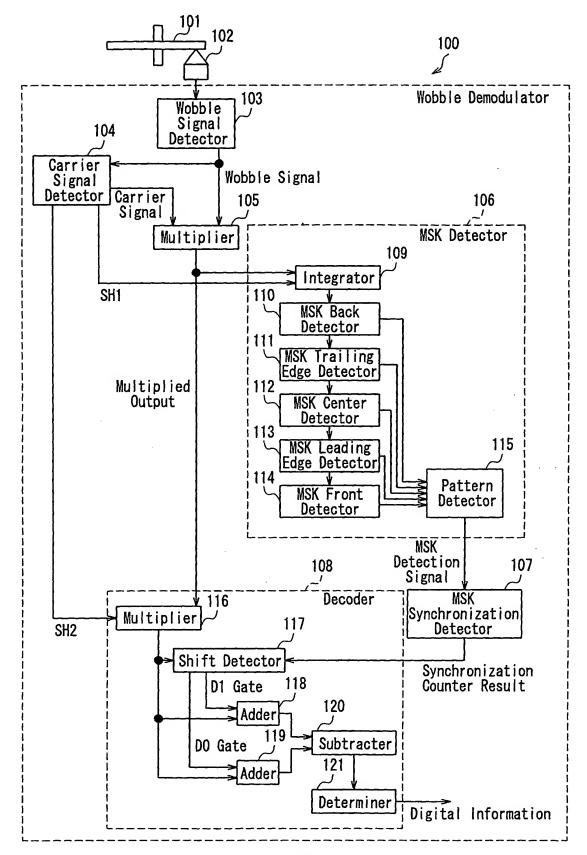


FIG. 1

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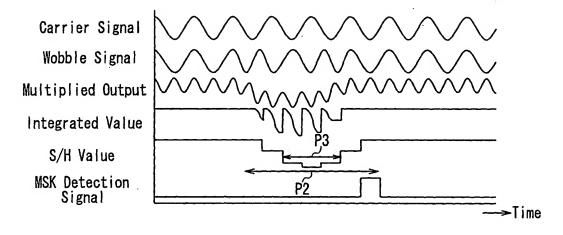


FIG. 2A

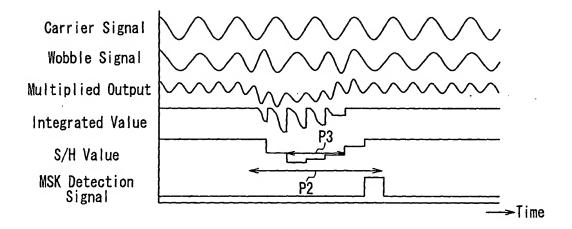


FIG. 2B

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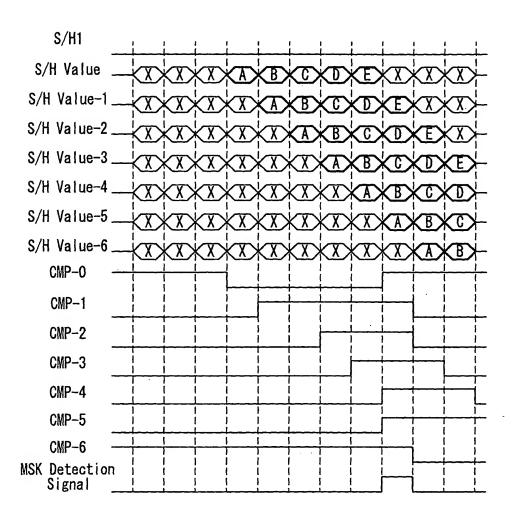


FIG. 3

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## FIG. 4A

Synchronization Counter Result Carrier Signal

Wobble Signal Data "1"

Wobble Signal Data "0"

Multiplied Value Data "1"

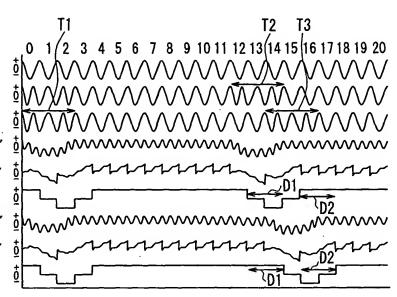
Integrated Value Data "1"

S/H Data "1"

Multiplied Value Data "0"

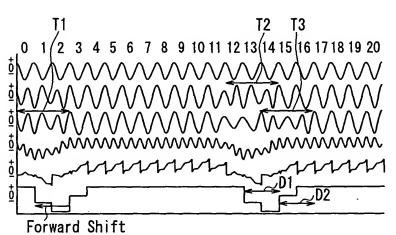
Integrated Value Data "0"

S/H Data "0"



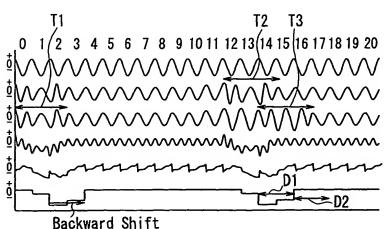
## FIG. 4B

Carrier Signal Wobble Signal Data "1" Wobble Signal Data "0" Multiplied Value Data "1" Integrated Value Data "1" S/H Data "1"



## FIG. 4C

Carrier Signal Wobble Signal Data "1" Wobble Signal Data "O" Multiplied Value Data "1" Integrated Value Data "1" S/H Data "1"



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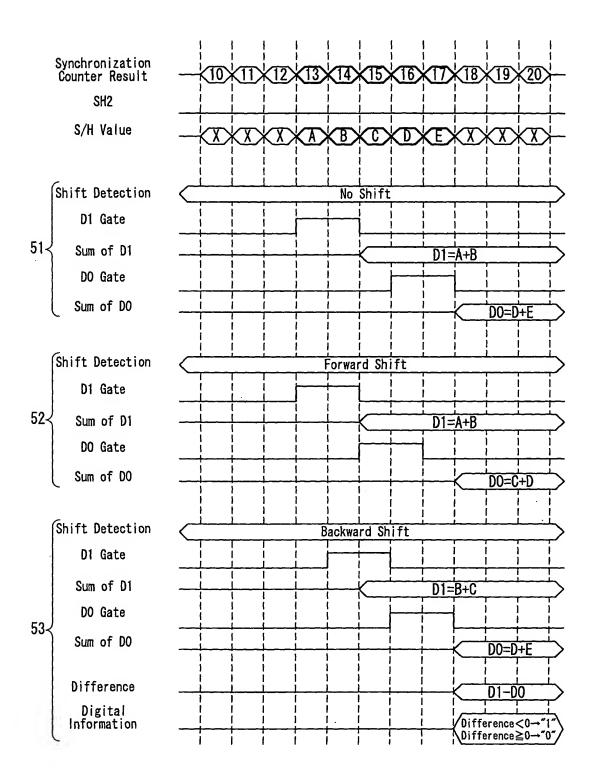


FIG. 5

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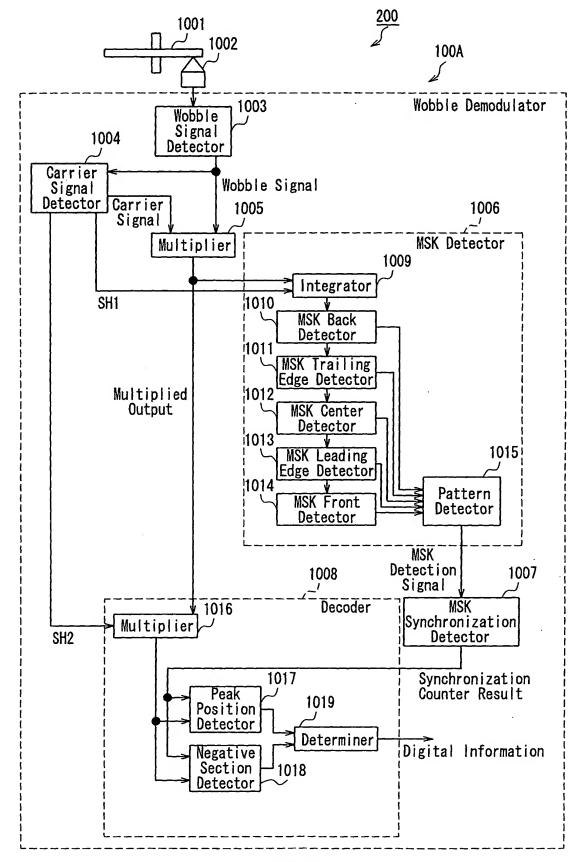
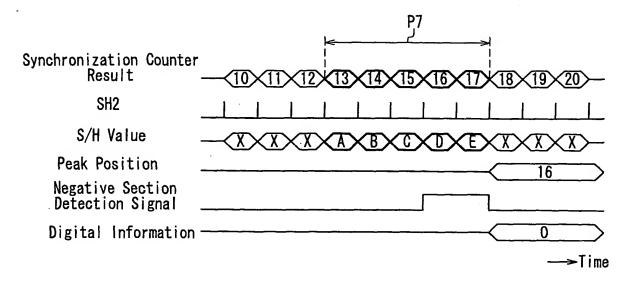


FIG. 6

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F1G. 7

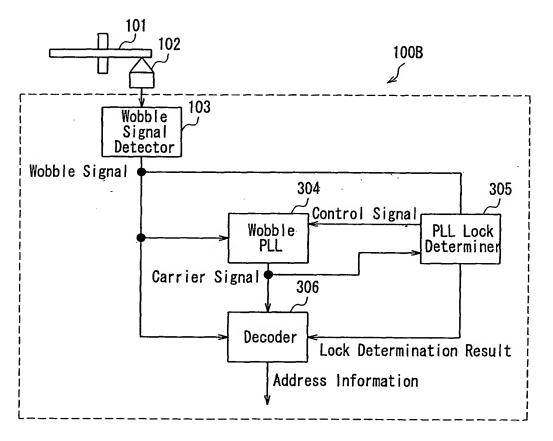


FIG. 8

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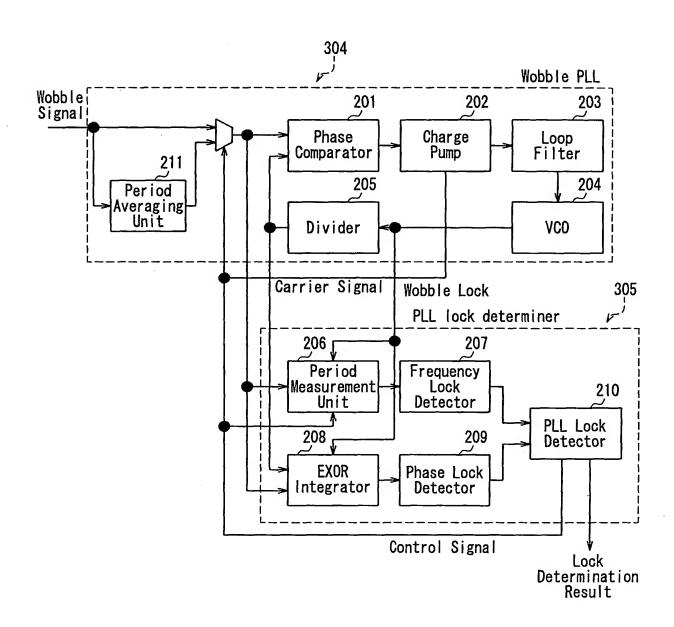


FIG. 9

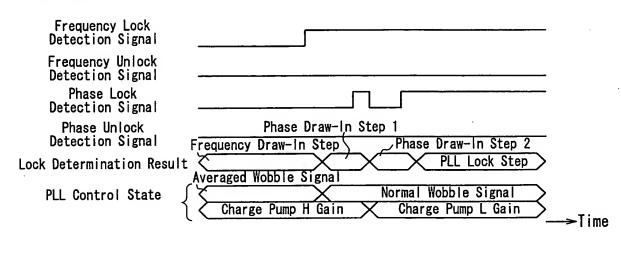
Docket No.: 10873.1280US01 Title: WOBBLE DEMODULATOR AND WOBBLE DEMODULATION METHOD

Attorney Name: Douglas P. Mueller

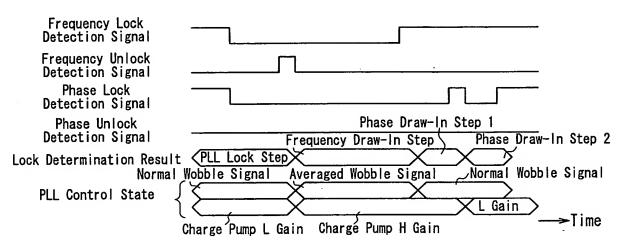
Phone No.: 612.371.5237

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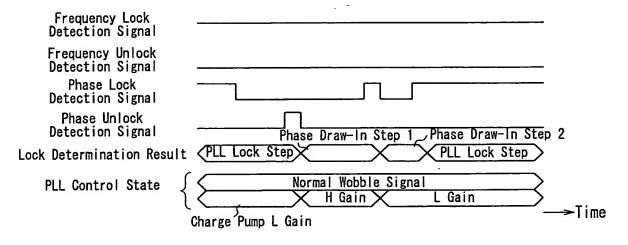
#### FIG. 10A



#### FIG. 10B



## FIG. 10C



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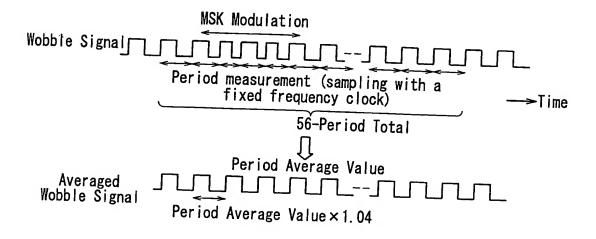


FIG. 11A

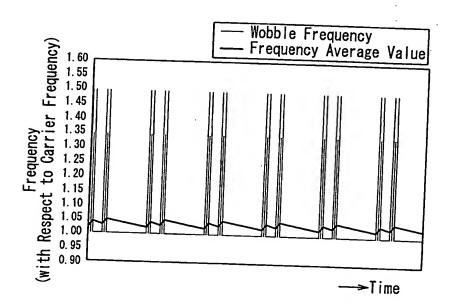


FIG. 11B

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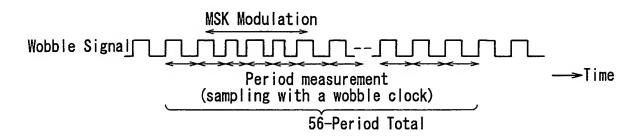


FIG. 12A

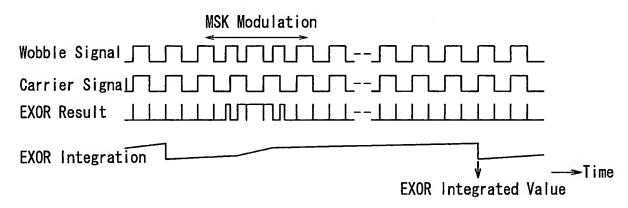


FIG. 12B

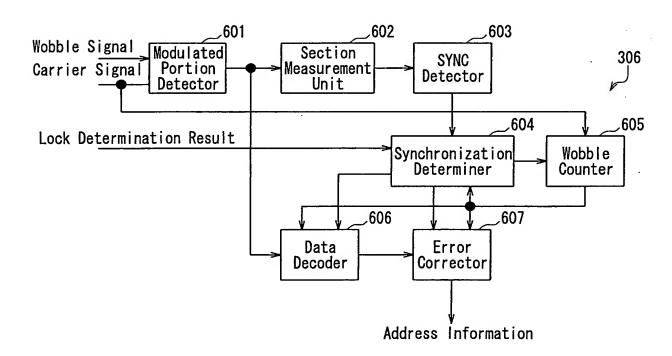


FIG. 13

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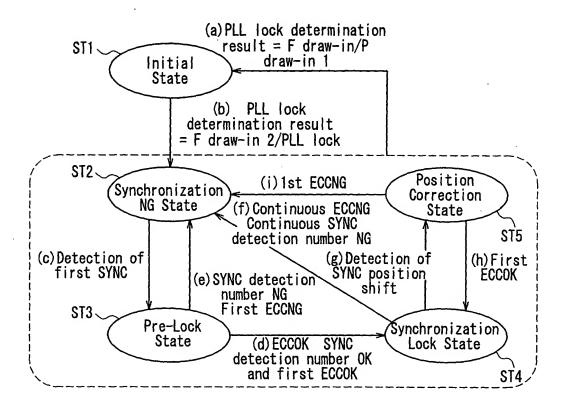


FIG. 14

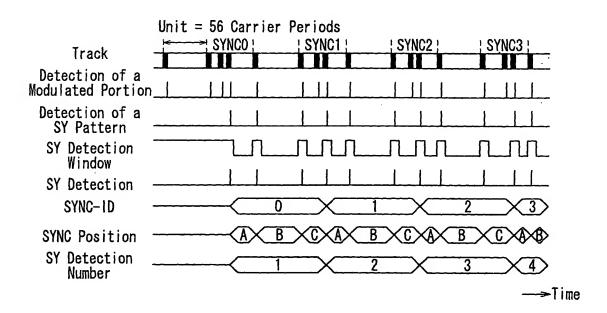


FIG. 15

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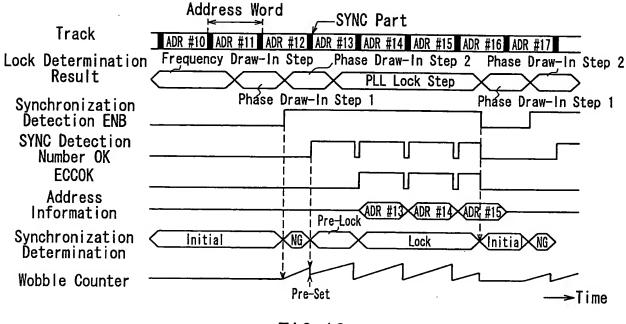


FIG. 16

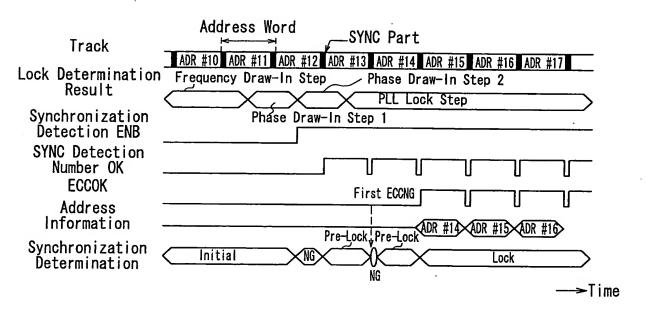


FIG. 17

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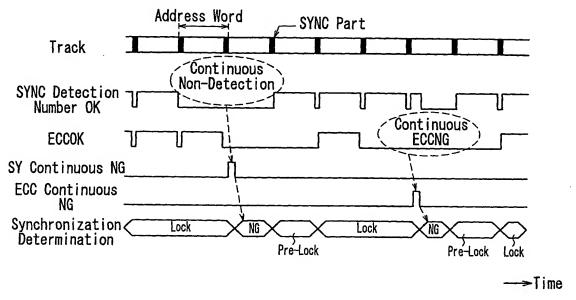


FIG. 18

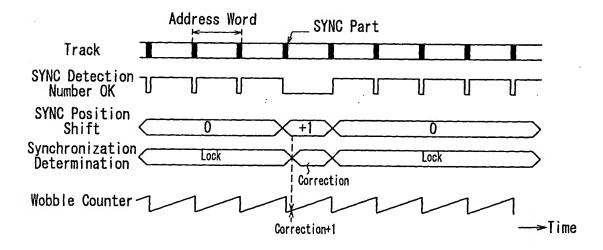


FIG. 19

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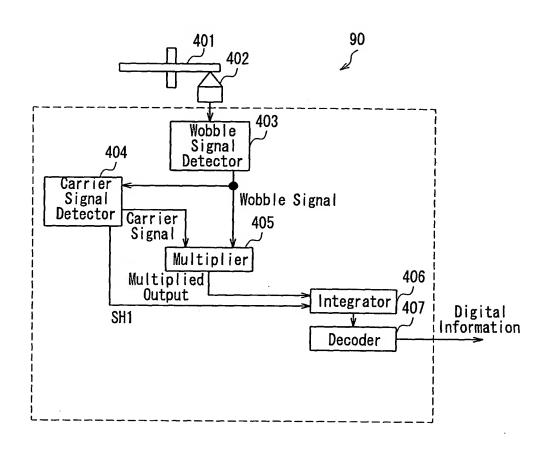
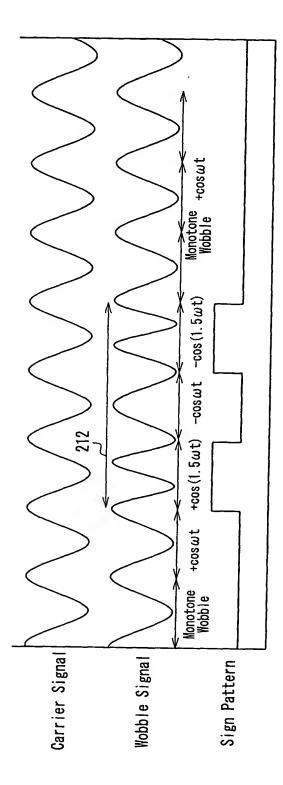


FIG. 20 PRIOR ART

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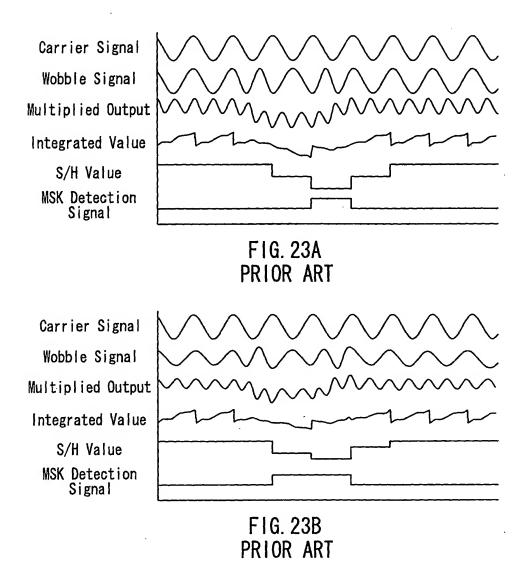
122 respect to data "1" Wobble signal with respect to data "0" Wobble signal with

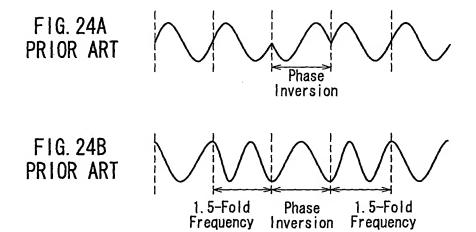
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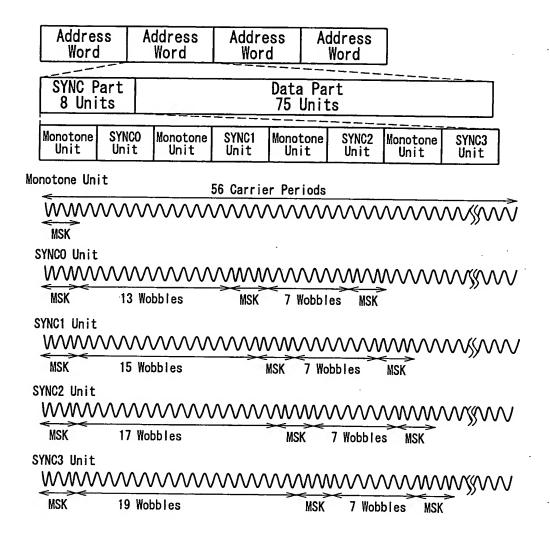


FIG. 25 PRIOR ART Inventor: NAKATA et al. Docket No.: 10873.1280US01

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Address Address Address Address Word Word Word Word SYNC Part Data Part 75 Units 8 Units Monotone Data 0/1 Monotone Data 0/1 Monotone Monotone Data 0/1 Unit unitx4 Unit unitx4 Unit Unit unitx4 1Nibble (4bit) Data 9 Nibbles + Parity 6 Nibbles Nibble Based ECC

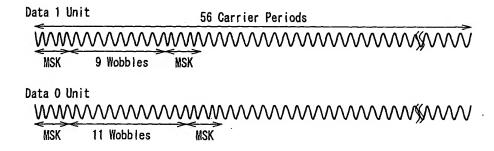


FIG. 26 PRIOR ART

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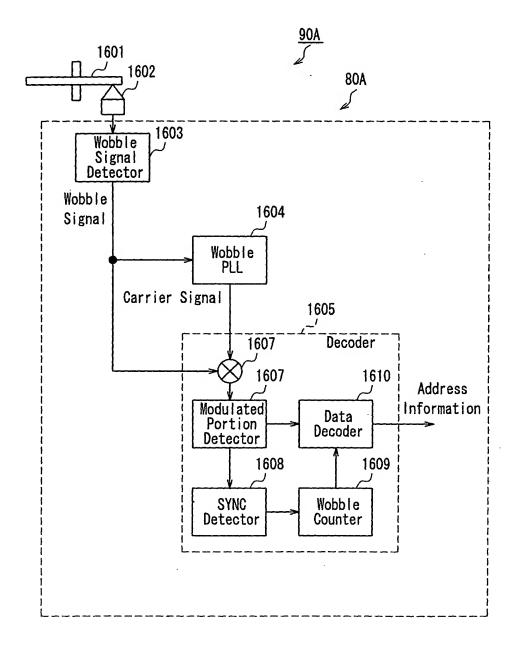


FIG. 27 PRIOR ART

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Wobble Signal Carrier Signa

Output of a Multiplied Signal and LPF

MSK Detection Signal

# FIG. 28A PRIOR ART

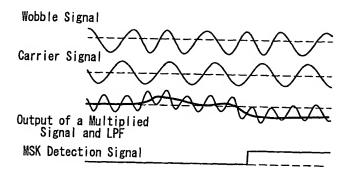


FIG. 28B PRIOR ART